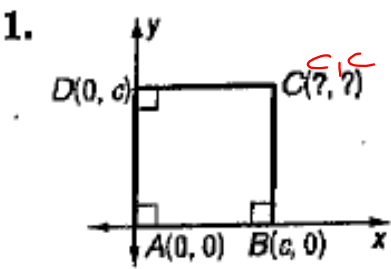
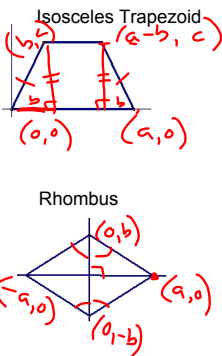
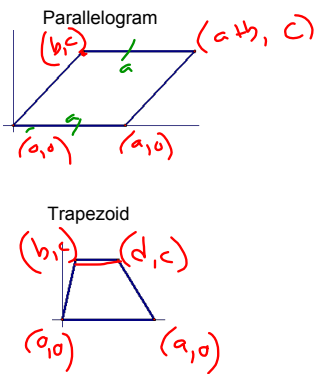
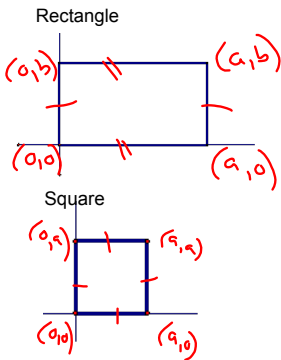
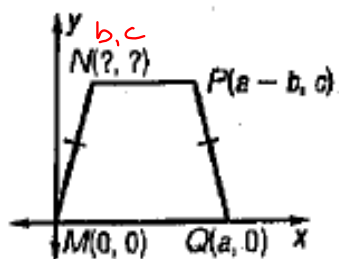


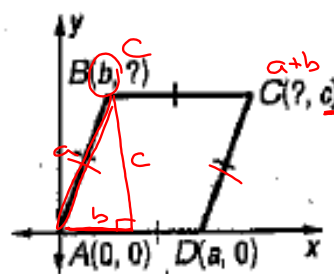
Coordinate Proof with Quadrilaterals



2.



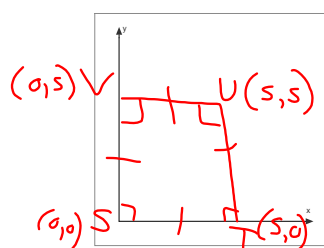
3.



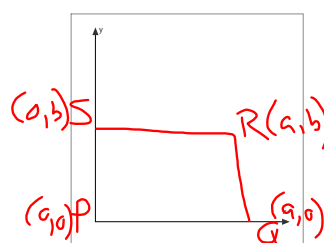
$$a^2 = b^2 + c^2 \quad b = \sqrt{a^2 - c^2}$$

$$a = \sqrt{b^2 + c^2}$$

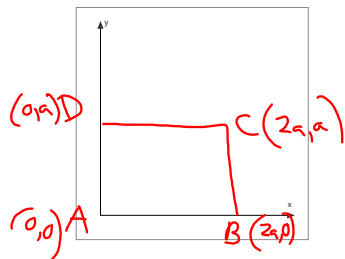
4. square  $STUV$  with side  $s$  units



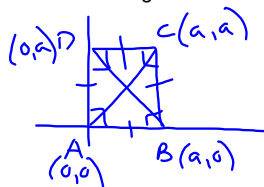
5. parallelogram  $PQRS$  with congruent diagonals



6. rectangle  $ABCD$  with  
length twice the width



Prove that the diagonals of a square are perpendicular



$$\overline{AC} \quad m = \frac{a-0}{a-0} = \frac{a}{a} = 1$$

$$\overline{BD} \quad m = \frac{0-a}{a-0} = -\frac{a}{a} = -1$$

$\overline{AC} \perp \overline{BD}$  b/c their slopes  
are opp. reciprocals.

Prove diagonals  
of Rect. are  $\cong$

$$PR = \sqrt{a^2 + b^2} = SQ$$

$$AC = a\sqrt{5} = BD$$

$$AC = \sqrt{4a^2 + a^2} = \sqrt{5a^2} = a\sqrt{5}$$